

What Is Claimed Is:

1. A method for determining wheel lift of a wheel of an automotive vehicle comprising the steps of:

applying a change of torque to the wheel;

5 measuring a change in a wheel condition since initiating the step of applying a change of torque;

10 indicating wheel lift if the change in the wheel condition is greater than a predetermined value.

2. A method as recited in claim 1 wherein the condition is one selected from the group of acceleration and speed.

3. A method as recited in claim 1 further comprising the step of removing the change of torque;
15 measuring a second wheel condition after the step of stopping the changing torque.

4. A method as recited in claim 3 further comprising the step of determining whether the second
20 wheel condition is above a threshold.

5. A method as recited in claim 1 wherein the step of applying a change of torque comprises applying a brake to the wheel.

6. A method as recited in claim 5 further comprising the step of releasing the brake;
25 determining a wheel condition after the step of releasing the brake;

when the wheel condition does not increase over a reacceleration threshold, confirming wheel lift;

when wheel speed condition increases over a reacceleration threshold, indicating wheel contact.

7. A method as recited in claim 1 wherein the step of applying a change of torque comprises applying engine torque.

8. A method for monitoring a predetermined condition of an automotive vehicle having a plurality of wheels comprising the steps of:

determining a potential for the predetermined condition of the wheel;

measuring a first wheel speed;

thereafter, changing the torque of a suspected lifting wheel from a first torque to a second torque;

changing the torque from the vehicle from the second torque to the first torque;

measuring a second wheel speed;

determining a wheel speed change as a function of the first wheel speed and the second wheel speed;

when the change in wheel speed is greater than a reacceleration threshold, confirming the predetermined condition.

9. A method as recited in claim 8 wherein the predetermined condition is a function of roll angle, steering wheel angle, and road bank angle.

indicating lift in response to a predetermined change in wheel speed.

18. A method for determining wheel lift of a vehicle comprising the steps of:

5 applying a torque to the wheel by applying a brake torque;

 increasing the brake torque to build until a maximum brake torque threshold is achieved;

 detecting the change in wheel speed since
10 the application of brake torque;

 comparing the change in wheel speed to a threshold;

 when the change in speed is above the wheel speed change threshold value, indicating wheel lift;

15 when the brake torque reaches a maximum value before the change in wheel speed reaches the threshold, holding the torque for a predetermined amount of time;

 continuing to monitor the change in wheel
20 speed during a hold duration;

 determining a second change in wheel speed;

 comparing the second wheel speed to the threshold value;

 when the second wheel speed exceeds the
25 threshold value during the hold duration, indicating a wheel lift.

19. A method as recited in claim 18 further comprising the steps of:

 releasing the torque;

30 determining a wheel speed change;

005260"ET369960

when the wheel speed change is greater than
a reacceleration threshold, indicating wheel contact;

when the wheel speed change is less than
the threshold, confirming an indication of wheel
5 lift.

20. A method as recited in claim 18
further comprising the step of calculating a traction
level.

21. A method as recited in claim 18
10 further comprising the step of when wheel lift is
detected, continually monitoring the wheel speed
change for a sudden increase to acknowledge wheel
contact.

005220 EP 939360